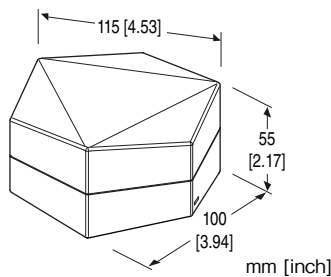


SG Series**SECURITY GATEWAY****Functions & Features**

- Secure communication by encrypted communication and cross certification
- Encrypts the Modbus/TCP communication
- Certification without login/password
- HTTP server can be operated as HTTPS server
- Authorization certificate can be generated by using Local Certification Authority Creator (Model: LCA-SG)

**MODEL: SG6-N[1]-[2][3]****ORDERING INFORMATION**

- Code number: SG6-N[1]-[2][3]
- Specify a code from below for each of [1] through [3].
(e.g. SG6-NJ-BR2/Q)
- Specify the specification for option code /Q
(e.g. /C01)

TYPE

N: Standard

[1] WIRELESS LAN TYPE

- A:** Without wireless LAN (CE marking)
J: With Wireless LAN (Japan only) (without CE)
 (Select 'BR2' for 'Power input' code.)

[2] POWER INPUT

AC Power

MR2: 100 - 240 V AC (with AC adaptor)
 (Operational voltage range 85 - 264 V AC, 47 - 66 Hz)

BR2: 100 V AC (with AC adaptor)
 (Operational voltage range 100 V AC \pm 10%)

(Rated output 24 V DC 1A)

Note: MR2 is for EU countries. Check the shape of the plug with the external dimensions.

[3] OPTIONS

blank: none

/Q: With options (specify the specification)

SPECIFICATIONS OF OPTION: Q

COATING (For the detail, refer to our web site.)

/C01: Silicone coating

/C02: Polyurethane coating

/C03: Rubber coating

RELATED PRODUCTS

Local certification authority creator (model: LCA-SG)

Software downloadable at our web site.

GENERAL SPECIFICATIONS**Connection**

- **Ethernet:** RJ-45 modular jack
- **Power supply:** AC adapter jack

Housing material: Flame-resistant resin (black)

Isolation: Power to Ethernet

Indicator LEDs: GREEN, RED, YELLOW

(Refer to the instruction manual)

Switch: Reset to factory default setting

(For details, refer to the users manual)

COMMUNICATION**■ Common**

Protocol: TCP/IP, TLS, HTTP, DNS, SNMP

DHCP protocol: DHCP server

IP address (factory default setting): 192.168.0.10

Configurable via web browser

● Operation confirmed terminals and web browsers

· Windows PC (Windows 10):

Microsoft Edge 84

Firefox 79

Chrome 84

· Android tablet (Android 10.0): Chrome 84

· iPad, iPhone (iOS 13.6.1): Safari

■ Ethernet

Communication standard: IEEE 802.3u

Transmission: 10BASE-T / 100BASE-TX

Baud rate: 10, 100Mbps (Auto Negotiation function)

Transmission media: 100BASE-TX (STP, Category 5e)

Max. length of fieldbus segment: 100 meters

■ Wireless LAN (Type J: wireless LAN option (Japan only))

Communication Standard: IEEE 802.11a/b/g/n

Channel:

a: 19ch

(36, 40, 44, 48ch [W52],

52, 56, 60, 64ch [W53],

100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140ch [W56])
b: 13ch (1-13)
g: 13ch (1-13)
n: 5GHz band: 19ch
(36, 40, 44, 48ch [W52],
52, 56, 60, 64ch [W53],
100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140ch [W56])
n: 2.4GHz band: 13ch (1 - 13)

EMC Directive (Type A: without wireless LAN)
EMI EN 61000-6-4
EMS EN 61000-6-2
RoHS Directive

Security:

a/b/g:
WEP 64bit/128bit,
WPA-PSK (AES,TKIP),
WPA2-PSK (AES,TKIP)
n:
WPA-PSK(AES),
WPA2-PSK(AES)

Number of client: Max. 8

Max. transmission distance: Approx. 25 m

INSTALLATION

Current consumption:

Approx. 17 VA (Type J: with wireless LAN (Japan only))
Approx. 13 VA @ 100 V AC (Type A: without wireless LAN)
Approx. 26 VA @ 200 V AC (Type A: without wireless LAN)
Approx. 31 VA @ 240 V AC (Type A: without wireless LAN)

Operating temperature:

0 to 40°C (32 to 104°F) (Type J: with wireless LAN (Japan only))
-10 to +55°C (14 to 131°F) (Type A: without wireless LAN)

Operating humidity: 10 to 90 %RH (non-condensing)

Atmosphere: No corrosive gas or heavy dust

Mounting: Direct mounting

Mounting direction: Vertical

Weight:

480 g (1.02 lb) (including AC adaptor) (Type J: wireless LAN option (Japan only))
450 g (0.99 lb) (including AC adaptor) (BR2, Type A: without wireless LAN)
470 g (1.04 lb) (including AC adaptor) (MR2, Type A: without wireless LAN)

PERFORMANCE

Insulation resistance: $\geq 100 \text{ M}\Omega$ with 500 V DC

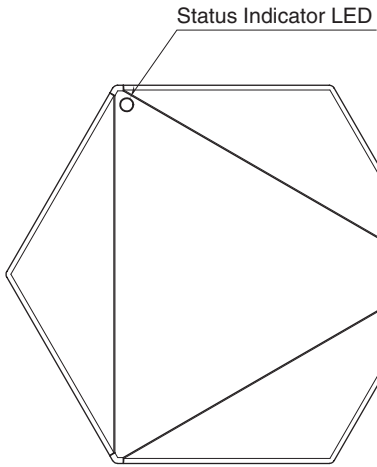
Dielectric strength: 1500 V AC @ 1 minute

STANDARDS & APPROVALS

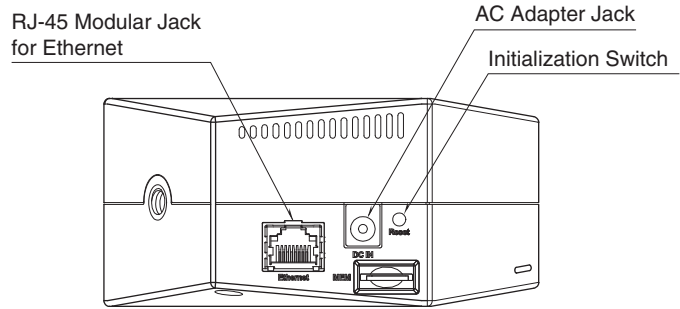
- Built-in module certified under Japanese Radio Law (Type J: with wireless LAN (Japan only))
- EU conformity:

EXTERNAL VIEW

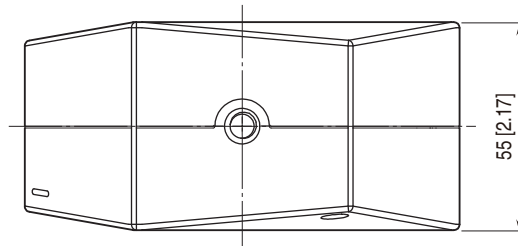
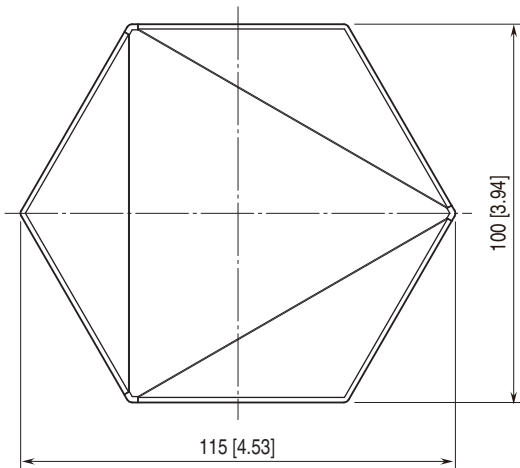
■ FRONT VIEW



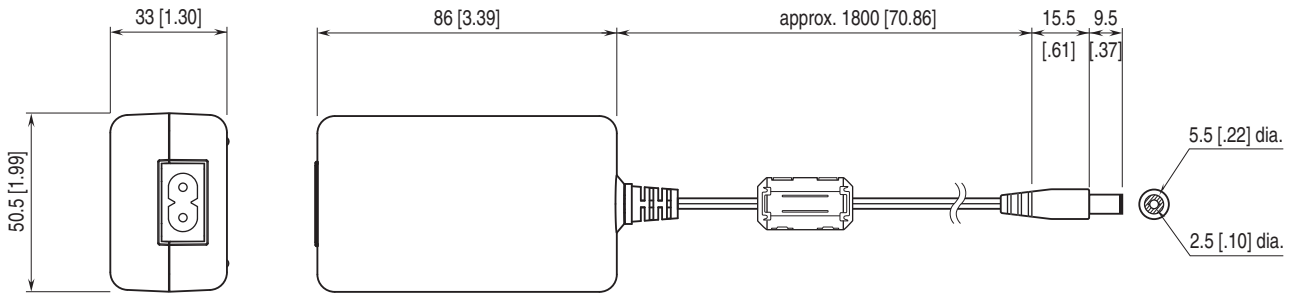
■ SIDE VIEW



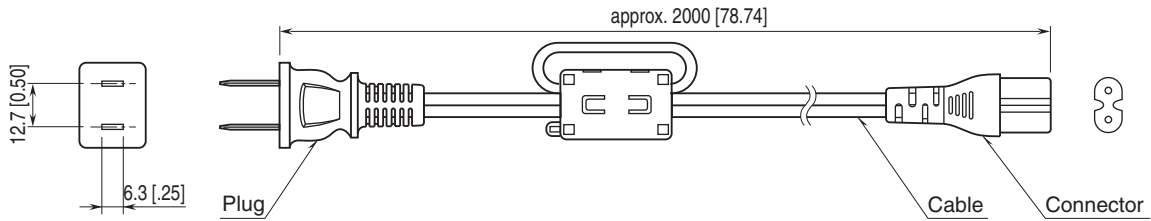
EXTERNAL DIMENSIONS unit: mm [inch]



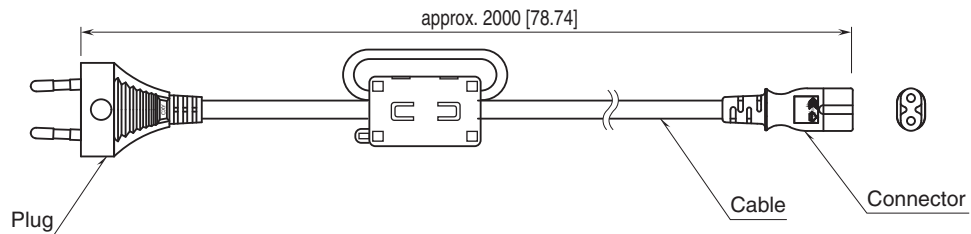
● BODY



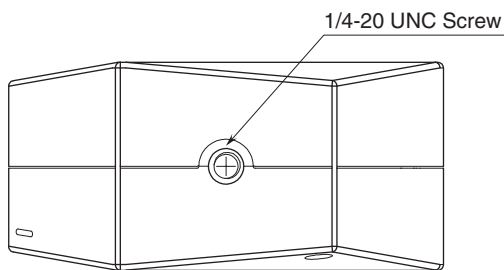
● CABLE FOR BR2



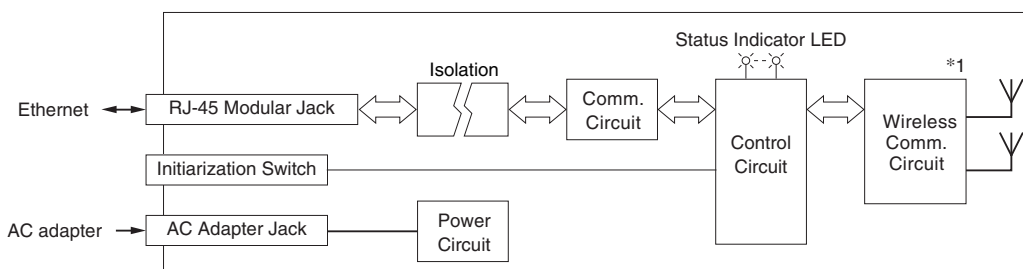
● CABLE FOR MR2



MOUNTING



SCHEMATIC CIRCUITRY



*1. Provided only for wireless LAN option.

NETWORK ENCRYPTION FUNCTION

Encrypted communication: TLSv1.2

Certificate: X.509v3

Certification: Client certification, server certification

Connection method can be selected between normal mode and reverse mode.

■ **Normal mode**

Secure communication by connecting from client to server.

Use of dynamic DNS service or fixed IP addresses according to the number of servers is required for WAN connection.

Mode: client/server

No. of listening port: 1/2/4/8

Max. number of connection: 8 - 64 per a listening port

Connection monitor: keep alive 60 sec.

Operation checked protocol: Modbus/TCP, SLMP, HTTP, HTTPS, original protocol

■ **Reverse mode**

Secure communication by connecting from server to client.

Use of dynamic DNS service or fixed IP addresses according to the number of servers is required for WAN connection.

Mode: client/server

No. of listening port: 8

Connection monitor: Keep-Alive 60 sec.

Max. No. of connection: 8 per a listening port

Operation confirmed protocol: Modbus/TCP, SLMP

● Operation confirmed devices (Modbus/TCP)

R3-NE1

R5-NE1

R6-NE1

R6-NE2

R7E series

R9EWTU

D3-NE1 (Japan only)

D3-NE2 (Japan only)

72EM2-M4

GR8-EM

DL8

TR30-G

DL30

IB10W2 (Japan only)

IT series

WL40EW2 (Japan only)

SCADALINXpro

● Operation checked devices (SLMP)

MELSEC iQ-R series

MELSEC iQ-F series

MELSEC Q series

● Operation checked devices (HTTP, HTTPS)

DL8

TR30

DL30

RGP30

RGP6 (Japan only)

EDMC (Japan only)

BA9EDMC (Japan only)

● Operation checked devices (our original protocol)

DL8, DLCFG

DL30, DL30CFGDL30GCFG

TR30, TRCFGTRGCFG

RGP30, RGP-Designer

RGP6, RGP-Designer (Japan only)

WEB BROWSER SETTING

The SG6 can serve as a web server, used for configuring the SG6 setting or for downloading certificates transferred by the Local Certification Authority Creator via web browser. (For details, refer to the users manual.)

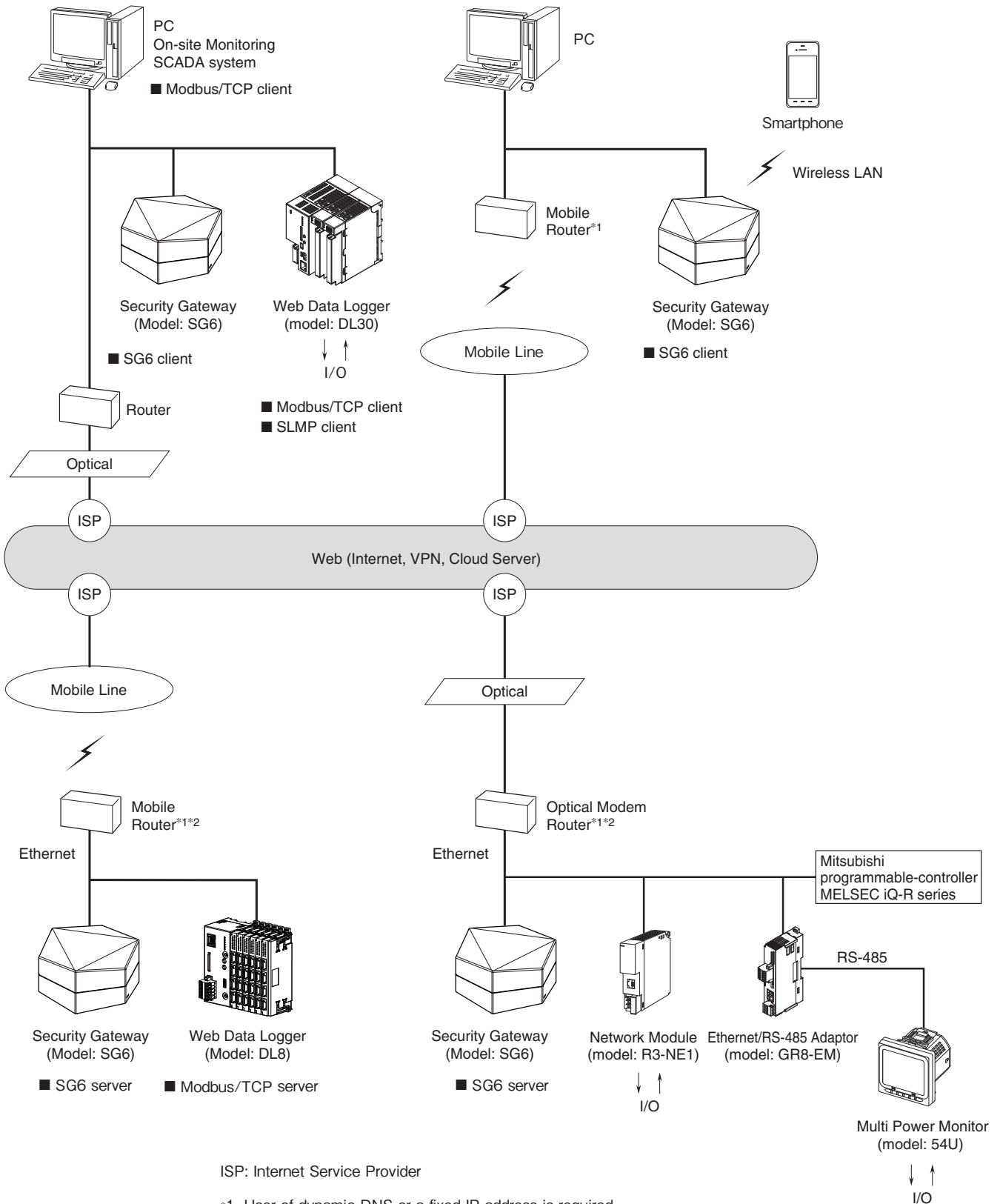
● No. of connection: 1

● Communication protocol: HTTP

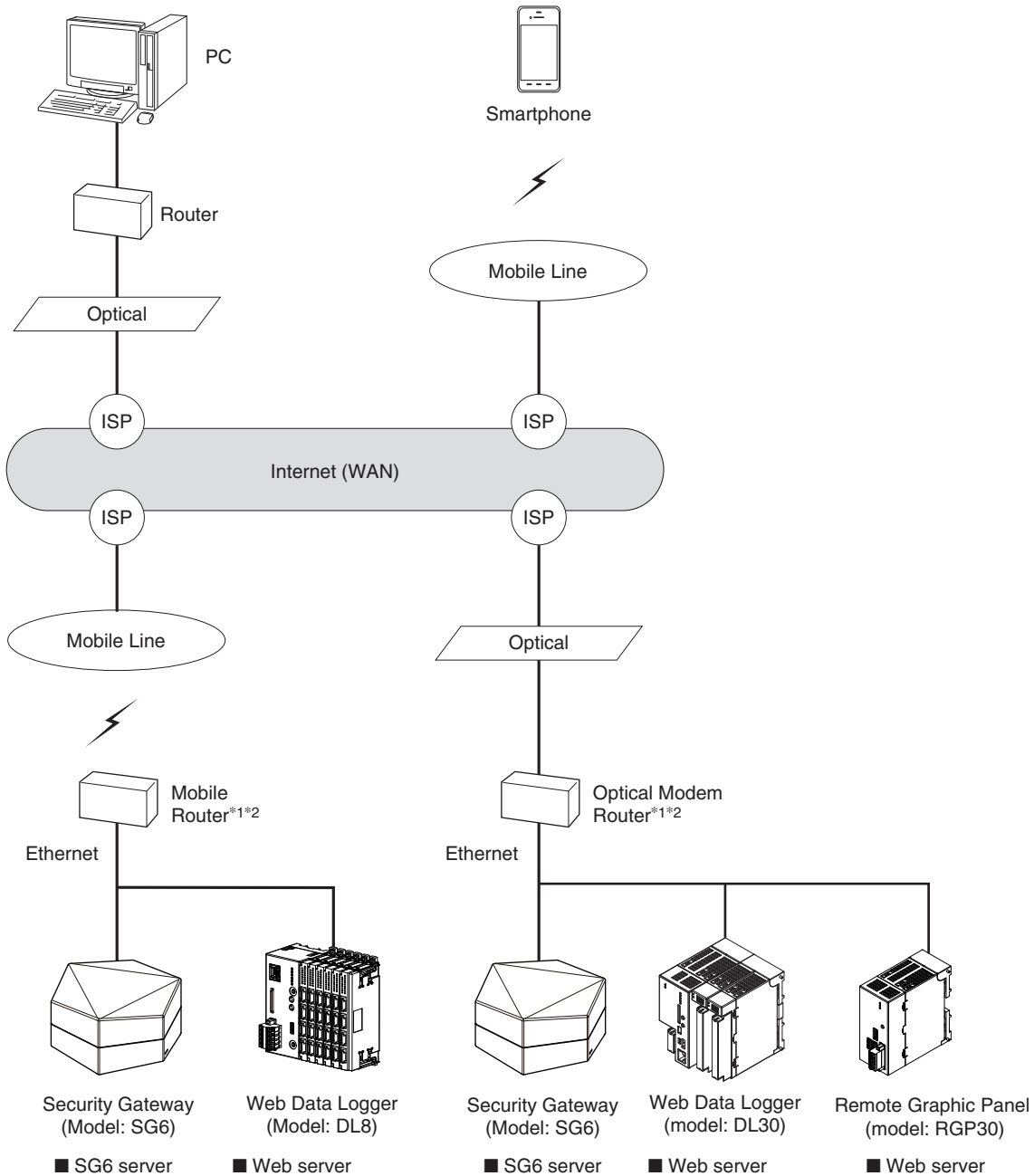
SYSTEM CONFIGURATION EXAMPLES

■ NORMAL MODE

- Example of using both of the SG6 client and the SG6 server



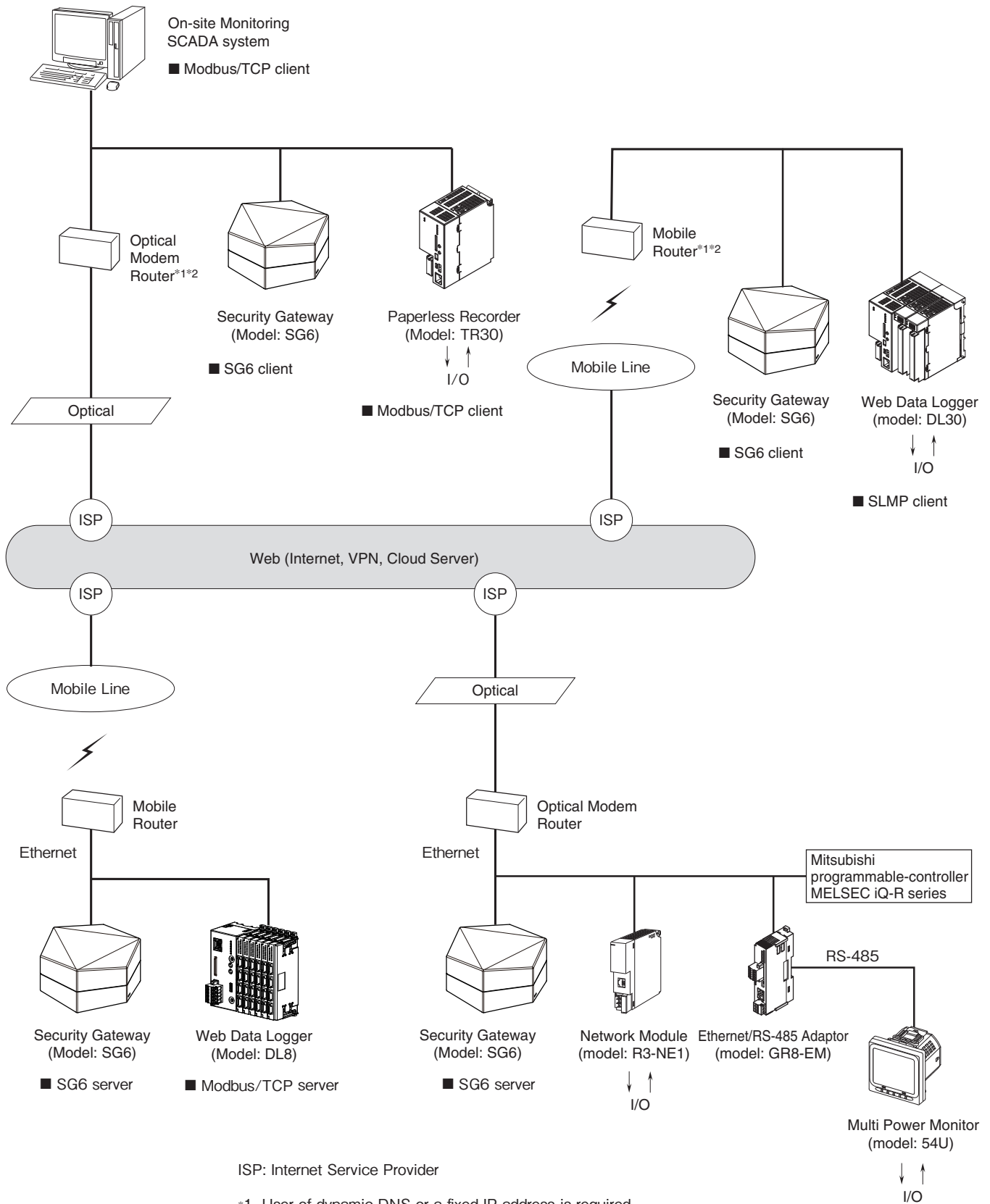
● Example of using only the SG6 server



*1. User of dynamic DNS or a fixed IP address is required.
 *2. Configuration change of the router may be required.

REVERSE MODE

● Example of connecting from the SG6 server to the SG6 client





Specifications are subject to change without notice.